Md Arif Shaikh

Assistant Professor
Department of Physics, Vivekananda Satavarshiki Mahavidyalaya
Manikpara, West Bengal, 721513, India
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Positions

- **Assistant Professor** 2023–*current*
  Department of Physics, Vivekananda Satavarshiki Mahavidyalaya
  Manikpara, West Bengal, 721513, India
- **Postdoctoral Fellow** 2022–2023
  Department of Physics and Astronomy, Seoul National University
  1 Gwanak-ro, Gwanak-gu, Seoul 08826, Korea
  Mentors: Hyung Mok Lee
- **Postdoctoral Fellow** 2019–2022
  Astrophysical Relativity, International Centre for Theoretical Sciences
  Hesaraghatta Hobli, Karnataka, 560089, India
  Mentors: Parameswaran Ajith, Prayush Kumar (unofficial)

Education

- **Doctor of Philosophy (PhD)** 2014–2019
  Cosmology & High Energy Astrophysics, Harish-Chandra Research Institute
  Chhatnag Road, Jhunsi, Prayagraj, 211019, Uttar Pradesh, India
  Advisor: Tapas Kumar Das
- **Master of Science (MSc)** 2012–2014
  Cosmology & High Energy Astrophysics, Harish-Chandra Research Institute
  Chhatnag Road, Jhunsi, Prayagraj, 211019, Uttar Pradesh, India
  Advisor: Tapas Kumar Das
- **Bachelor of Science (BSc)** 2009–2012
  Faculty of Physics, Jadavpur University
  188, Raja S.C. Mallick Rd, Kolkata 700032, India

Publications

Short author

19. P. J. Nee, A. Ravichandran, S. E. Field, T. Islam, H. P. Pfeiffer, V. Varma, M. Boyle, A. Ceja, N. Ghadiri, L. E. Kidder, P. Kumar, A. Maurya, M. Morales, A. Ramos-Buades, A. Ravishankar, K. Rink, H. R. Rüter, M. A. Scheel, M. A. Shaikh & D. Tellez, "Eccentric binary black holes: A new framework for numerical relativity waveform surrogates", (2025), arXiv:2510.00106 [gr-qc]

18. A. Tiwari, S. A. Bhat, M. A. Shaikh & S. J. Kapadia, "Testing the nature of GW200105 by probing the frequency evolution of eccentricity", (2025), arXiv:2509.26152 [astro-ph.HE]

17. S. A. Bhat, A. Tiwari, M. A. Shaikh & S. J. Kapadia, "EECT: an Eccentricity Evolution Consistency Test to distinguish eccentric gravitational-wave signals from eccentricity mimickers", (2025), arXiv:2508.14850 [gr-qc]

16. M. A. Shaikh, V. Varma, A. Ramos-Buades, H. P. Pfeiffer, M. Boyle, L. E. Kidder & M. A. Scheel, "Defining eccentricity for spin-precessing binaries", Class. Quant. Grav., **42**, 195012, (2025), arXiv:2507.08345 [gr-qc]

15. N. Chartier, M. A. Shaikh, H. M. Lee & J. Kim, "Comparison between best-fit eccentricity definitions and the standardized definition of eccentricity", Phys. Rev. D, **112**, 024029, (2025), arXiv:2503.19538 [gr-qc]

14. U. Deka, G. Prabhu, M. A. Shaikh, S. J. Kapadia, V. Varma & S. E. Field, "Surrogate modeling of gravitational waves microlensed by spherically symmetric potentials", Phys. Rev. D, **111**, 104042, (2025), arXiv:2501.02974 [gr-qc]

13. U. Deka, S. Chakraborty, S. J. Kapadia, M. A. Shaikh & P. Ajith, "Probing the charge of compact objects with gravitational microlensing of gravitational waves", Phys. Rev. D, **111**, 064028, (2025), arXiv:2401.06553 [gr-qc]

12. M. A. Shaikh, S. A. Bhat & S. J. Kapadia, "A study of the inspiral-merger-ringdown consistency test with gravitational-wave signals from compact binaries in eccentric orbits", Phys. Rev. D, **110**, 024030, (2024), arXiv:2402.15110 [gr-qc]

11. M. A. Shaikh, V. Varma, H. P. Pfeiffer, A. Ramos-Buades & M. van de Meent, "Defining eccentricity for gravitational wave astronomy", Phys. Rev. D, **108**, 104007, (2023), arXiv:2302.11257 [gr-qc]

10. M. K. Singh, D. Divyajyoti, S. J. Kapadia, M. A. Shaikh & P. Ajith, "Improved early-warning estimates of luminosity distance and orbital inclination of compact binary mergers using higher modes of gravitational radiation", Mon. Not. Roy. Astron. Soc., **513**, 3798–3809, (2022), arXiv:2202.05802 [astro-ph.HE]

9. S. Maity, M. A. Shaikh, P. Tarafdar & T. K. Das, "Carter-Penrose diagrams for emergent spacetime in axisymmetrically accreting black hole systems", Phys. Rev. D, **106**, 044062, (2022), arXiv:2106.07598 [gr-qc]

8. W. Wei, E. A. Huerta, M. Yun, N. Loutrel, M. A. Shaikh, P. Kumar, R. Haas & V. Kindratenko, "Deep Learning with Quantized Neural Networks for Gravitational-wave Forecasting of Eccentric Compact Binary Coalescence", Astrophys. J., **919**, 82, (2021), arXiv:2012.03963 [gr-qc]

7. M. K. Singh, S. J. Kapadia, M. A. Shaikh, D. Chatterjee & P. Ajith, "Improved early warning of compact binary mergers using higher modes of gravitational radiation: A population study", Mon. Not. Roy. Astron. Soc., **502**, 1612–1622, (2021), arXiv:2010.12407 [astro-ph.HE]

6. S. J. Kapadia, M. K. Singh, M. A. Shaikh, D. Chatterjee & P. Ajith, "Of Harbingers and Higher Modes: Improved gravitational-wave early-warning of compact binary mergers", Astrophys. J. Lett., **898**, L39, (2020), arXiv:2005.08830 [astro-ph.HE]

5. M. A. Shaikh, S. Maity, S. Nag & T. K. Das, "Effective sound speed in relativistic accretion discs around Schwarzschild black holes", New Astron., **69**, 48–57, (2019), arXiv:1806.04084 [astro-ph.HE]

4. M. A. Shaikh & T. K. Das, "Linear perturbations of low angular momentum accretion flow in the Kerr metric and the corresponding emergent gravity phenomena", Phys. Rev. D, **98**, 123022, (2018), arXiv:1803.09896 [astro-ph.HE]

3. M. A. Shaikh, "Relativistic sonic geometry for isothermal accretion in the Kerr metric", Class. Quant. Grav., **35**, 055002, (2018), arXiv:1705.04918 [gr-qc]

2. S. Datta, M. A. Shaikh & T. K. Das, "Acoustic geometry obtained through the perturbation of the Bernoulli's constant", New Astron., **63**, 65–74, (2018), arXiv:1612.07954 [gr-qc]

1. M. A. Shaikh, I. Firdousi & T. K. Das, "Relativistic sonic geometry for isothermal accretion in the Schwarzschild metric", Class. Quant. Grav., **34**, 155008, (2017), arXiv:1612.07963 [gr-qc]

SXS Collaboration

1. M. A. Scheel & , "The SXS Collaboration's third catalog of binary black hole simulations", (2025), arXiv:2505.13378 [gr-qc]

LVK Collaboration

34. LIGO Scientific, VIRGO, KAGRA, "Directional Search for Persistent Gravitational Waves: Results from the First Part of LIGO-Virgo-KAGRA's Fourth Observing Run", (2025), arXiv:2510.17487 [gr-qc]

33. LIGO Scientific, VIRGO, KAGRA, "Directed searches for gravitational waves from ultralight vector boson clouds around merger remnant and galactic black holes during the first part of the fourth LIGO-Virgo-KAGRA observing run", (2025), arXiv:2509.07352 [gr-qc]

32. LIGO Scientific, Virgo, KAGRA, "GW250114: Testing Hawking's Area Law and the Kerr Nature of Black Holes", Phys. Rev. Lett., **135**, 111403, (2025), arXiv:2509.08054 [gr-qc]

31. LIGO Scientific, VIRGO, KAGRA, "GWTC-4.0: Constraints on the Cosmic Expansion Rate and Modified Gravitational-wave Propagation", (2025), arXiv:2509.04348 [astro-ph.CO]

30. LIGO Scientific, VIRGO, KAGRA, "Upper Limits on the Isotropic Gravitational-Wave Background from the first part of LIGO, Virgo, and KAGRA's fourth Observing Run", (2025), arXiv:2508.20721 [gr-qc]

29. LIGO Scientific, VIRGO, KAGRA, "Open Data from LIGO, Virgo, and KAGRA through the First Part of the Fourth Observing Run", (2025), arXiv:2508.18079 [gr-qc]

28. LIGO Scientific, VIRGO, KAGRA, "GWTC-4.0: Updating the Gravitational-Wave Transient Catalog with Observations from the First Part of the Fourth LIGO-Virgo-KAGRA Observing Run", (2025), arXiv:2508.18082 [gr-qc]

27. LIGO Scientific, VIRGO, KAGRA, "GWTC-4.0: Population Properties of Merging Compact Binaries", (2025), arXiv:2508.18083 [astro-ph.HE]

26. LIGO Scientific, VIRGO, KAGRA, "GWTC-4.0: Methods for Identifying and Characterizing Gravitational-wave Transients", (2025), arXiv:2508.18081 [gr-qc]

25. LIGO Scientific, VIRGO, KAGRA, "GWTC-4.0: An Introduction to Version 4.0 of the Gravitational-Wave Transient Catalog", (2025), arXiv:2508.18080 [gr-qc]

24. LIGO Scientific, VIRGO, KAGRA, "All-sky search for long-duration gravitational-wave transients in the first part of the fourth LIGO-Virgo-KAGRA Observing run", (2025), arXiv:2507.12282 [gr-qc]

23. LIGO Scientific, VIRGO, KAGRA, "All-sky search for short gravitational-wave bursts in the first part of the fourth LIGO-Virgo-KAGRA observing run", (2025), arXiv:2507.12374 [astro-ph.HE]

22. LIGO Scientific, VIRGO, KAGRA, "GW231123: a Binary Black Hole Merger with Total Mass 190-265 M_o", (2025), arXiv:2507.08219 [astro-ph.HE]

21. LIGO Scientific, VIRGO, KAGRA, "Search for Continuous Gravitational Waves from Known Pulsars in the First Part of the Fourth LIGO-Virgo-KAGRA Observing Run", Astrophys. J., **983**, 99, (2025), arXiv:2501.01495 [astro-ph.HE]

20. LIGO Scientific, KAGRA, VIRGO, "Search for Gravitational Waves Emitted from SN 2023ixf", Astrophys. J., **985**, 183, (2025), arXiv:2410.16565 [astro-ph.HE]

19. LIGO Scientific, KAGRA, VIRGO, "A Search Using GEO600 for Gravitational Waves Coincident with Fast Radio Bursts from SGR 1935+2154", Astrophys. J., **977**, 255, (2024), arXiv:2410.09151 [astro-ph.HE]

18. LIGO Scientific, KAGRA, Virgo, Swift, Swift-BAT/GUANO, "Swift-BAT GUANO Follow-up of Gravitational-wave Triggers in the Third LIGO-Virgo-KAGRA Observing Run", Astrophys. J., **980**, 207, (2025), arXiv:2407.12867 [astro-ph.HE]

17. LIGO Scientific, KAGRA, VIRGO, "Observation of Gravitational Waves from the Coalescence of a 2.5-4.5 M $_o$ Compact Object and a Neutron Star", Astrophys. J. Lett., **970**, L34, (2024), arXiv:2404.04248 [astro-ph.HE]

16. KAGRA, LIGO Scientific, VIRGO, "Ultralight vector dark matter search using data from the KAGRA O3GK run", Phys. Rev. D, **110**, 042001, (2024), arXiv:2403.03004 [astro-ph.CO]

15. Fermi Gamma-Ray Burst Monitor Team, LIGO Scientific, Virgo, KAGRA, "A Joint Fermi-GBM and Swift-BAT Analysis of Gravitational-wave Candidates from the Third Gravitational-wave Observing Run", Astrophys. J., **964**, 149, (2024), arXiv:2308.13666 [astro-ph.HE]

14. LIGO Scientific, KAGRA, VIRGO, "Search for Eccentric Black Hole Coalescences during the Third Observing Run of LIGO and Virgo", Astrophys. J., **973**, 132, (2024), arXiv:2308.03822 [astro-ph.HE]

13. LIGO Scientific, KAGRA, VIRGO, "Search for Gravitational-lensing Signatures in the Full Third Observing Run of the LIGO-Virgo Network", Astrophys. J., **970**, 191, (2024), arXiv:2304.08393 [gr-qc]

12. KAGRA, VIRGO, LIGO Scientific, "Open Data from the Third Observing Run of LIGO, Virgo, KAGRA, and GEO", Astrophys. J. Suppl., **267**, 29, (2023), arXiv:2302.03676 [gr-qc]

11. LVK, "Search for subsolar-mass black hole binaries in the second part of Advanced LIGO's and Advanced Virgo's third observing run", Mon. Not. Roy. Astron. Soc., **524**, 5984–5992, (2023), arXiv:2212.01477 [astro-ph.HE]

10. LIGO Scientific, KAGRA, VIRGO, "Search for Gravitational-wave Transients Associated with Magnetar Bursts in Advanced LIGO and Advanced Virgo Data from the Third Observing Run", Astrophys. J., **966**, 137, (2024), arXiv:2210.10931 [astro-ph.HE]

9. LIGO Scientific, KAGRA, VIRGO, "Model-based Cross-correlation Search for Gravitational Waves from the Low-mass X-Ray Binary Scorpius X-1 in LIGO O3 Data", Astrophys. J. Lett., **941**, L30, (2022), arXiv:2209.02863 [astro-ph.HE]

8. KAGRA, LIGO Scientific, VIRGO, "Search for continuous gravitational wave emission from the Milky Way center in O3 LIGO-Virgo data", Phys. Rev. D, **106**, 042003, (2022), arXiv:2204.04523 [astro-ph.HE]

7. KAGRA, VIRGO, LIGO Scientific, "First joint observation by the underground gravitational-wave detector KAGRA with GEO 600", PTEP, **2022**, 063F01, (2022), arXiv:2203.01270 [gr-qc]

6. KAGRA, VIRGO, LIGO Scientific, "Search for gravitational waves from Scorpius X-1 with a hidden Markov model in O3 LIGO data", Phys. Rev. D, **106**, 062002, (2022), arXiv:2201.10104 [gr-qc]

5. KAGRA, LIGO Scientific, VIRGO, "All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO and Advanced Virgo O3 data", Phys. Rev. D, **106**, 102008, (2022), arXiv:2201.00697 [gr-qc]

4. LIGO Scientific, VIRGO, KAGRA, "Tests of General Relativity with GWTC-3", (2021), arXiv:2112.06861 [gr-qc]

3. LIGO Scientific, Virgo, KAGRA, "All-sky search for gravitational wave emission from scalar boson clouds around spinning black holes in LIGO O3 data", Phys. Rev. D, **105**, 102001, (2022), arXiv:2111.15507 [astro-ph.HE]

2. LIGO Scientific, VIRGO, KAGRA, "Searches for Gravitational Waves from Known Pulsars at Two Harmonics in the Second and Third LIGO-Virgo Observing Runs", Astrophys. J., **935**, 1, (2022), arXiv:2111.13106 [astro-ph.HE]

1. LIGO Scientific, Virgo, KAGRA, "Constraints on the Cosmic Expansion History from GWTC-3", Astrophys. J., **949**, 76, (2023), arXiv:2111.03604 [astro-ph.CO]

Presentations

Conference Talks

9. "What do we know about the eccentricity of the GW sources?", Cosmology in Multi-Messenger Era, Gravitational Wave Universe, SNU, Seoul, Korea, October 14, 2024

8. "A study of IMRCT on eccentric GW signal", GW Universe Workshop 8, Gravitational Wave Universe, Seoul, Korea, December 26–27, 2023

7. "Comparing eccentric waveforms for gravitational wave data analysis", 2nd H.S. Yun Astronomy Workshop, Seoul, Korea, August 29–30, 2023
6. "Defining eccentricity for gravitational wave astronomy", ICGAC15, Gyeongju, Korea, July 3–7, 2023
5. "Defining eccentricity for gravitational wave astronomy", APSWGC, Hangzhou, China, May 14–22, 2023
4. "Defining eccentricity for gravitational wave astronomy", GWPAW, Melbourne, Australia, December 4–9, 2022
3. "Probing the evolution history of compact binaries from higher modes of gravitation waves", ICTS In-house symposium, Bangalore, India, February 17–18, 2020
2. "Relativistic acoustic geometry in general relativistic accretion disc around Kerr black holes", Exploring the Universe: Near Earth Space Science to Extra-Galactic Astronomy, Kolkata, India, November 14–17, 2018
1. "Emergence of curved sonic manifold for isothermal accretion in black hole metric", Young Astronomers Meet, Pune, India, September 11–15, 2017

Conference Posters

5. "Surrogate and hybrid models of eccentric waveforms using numerical relativity", 765. WE-Heraeus-Seminar: Gravitational Wave and Multimessenger Astronomy, Physikzentrum Bad Honnef, Germany, April 25–28, 2022
4. "Probing the evolution of compact binaries using higher modes of gravitational waves", 39th meeting of ASI, Online, India, February 18–23, 2021
3. "Probing evolution history of compact binaries using higher modes of gravitational waves", LVK September Meeting, Online, LIGO, September 14–17, 2020
2. "Relativistic sonic geometry for isothermal accretion in Kerr metric", 29th meeting of IAGRG, Guwahati, India, May 18–20, 2017
1. "Emergence of relativistic sonic geometry through perturbation of matter in black hole metric", 35th meeting of ASI, Jaipur, India, March 6–10, 2017

Seminars

14. "Defining eccentricity for spin-precessing binaries", ICTS, Bangalore, India, August 07, 2025
13. "Defining eccentricity for spin-precessing binaries", IUCAA, Pune, India, June 18, 2025
12. "gw_eccentricity: a Python package to measure orbital eccentricity from gravitational waveforms", Inje University, Gimhae, Korea, November 03, 2023
11. "gw_eccentricity: a Python package to measure orbital eccentricity from gravitational waveforms", IUCAA, Pune, India, June 19, 2023
10. "gw_eccentricity: a Python package to measure orbital eccentricity from gravitational waveforms", ICTS-TIFR, Bangalore, India, June 15, 2023
9. "Measuring Eccentricity from Gravitational Waveform", ITP, Beijing, China, May 11, 2023
8. "Measuring Eccentricity from Gravitational Waveform", BNU, Beijing, China, May 10, 2023
7. "Defining eccentricity for gravitational wave astronomy", KASI, Daejeon, Korea, April 20, 2023
6. "Standardizing the definition of eccentricity for gravitational wave astronomy", IBS, Daejeon, Korea, April 18, 2023
5. "Defining eccentricity for gravitational wave astronomy", ICTS-TIFR, Bangalore (online), India, December 01, 2022

4. "Defining eccentricity for gravitational wave astronomy", RESCEU, Tokyo, Japan, November 18, 2022
3. "Defining eccentricity for gravitational wave astronomy", OIT, Osaka, Japan, November 16, 2022
2. "Defining eccentricity for gravitational wave astronomy", YITP, Kyoto, Japan, November 14, 2022
1. "On the emergent sonic geometry through the linear perturbation of relativistic black hole accretion", HRI, Allahabad, India, November 18, 2019

Participation in conference & workshops

38. The Future of Gravitational-Wave Astronomy, ICTS, Bangalore, India, October 27–31, 2025
37. Cosmology in Multi-Messenger Era, Gravitational Wave Universe, SNU, Seoul, Korea, October 14, 2024
36. GW Universe Workshop 8, Gravitational Wave Universe, Seoul, Korea, December 26–27, 2023
35. KAS 2023 Fall Meeting, Korean Astronomical Society, RABADA PLAZA, JEJU, Korea, October 18–20, 2023
34. LVK 2023 September Meeting, LVK Collaboration, Toyama, Japan, September 11–15, 2023
33. 2nd H.S. Yun Astronomy Workshop, Seoul, Korea, August 29–30, 2023
32. ICGAC15, Gyeongju, Korea, July 3–7, 2023
31. GW Universe Workshop 7, Gravitational Wave Universe, Seoul, Korea, June 12, 2023
30. APSWGC, Hangzhou, China, May 14–22, 2023
29. KAS 2023 Spring Meeting, Korean Astronomical Society, LAHANHOTEL, JEONJU, Korea, April 12–14, 2023
28. 68th Workshop on Gravitational Waves and Numerical Relativity, APCTP, Pohang, Korea, March 15–16, 2023
27. LVK 2023 March Meeting, Center for Interdisciplinary Exploration and Research in Astrophysics (CIERA), (remote participation), Evanston, USA, March 13–16, 2023
26. GW Universe Winter Workshop 2023, Gravitational Wave Universe, Yongpyong Ski Resort, Gwangwon, Korea, February 26–March 1, 2023
25. GWPAW, Melbourne, Australia, December 4–9, 2022
24. GW Universe Workshop6, Gravitational Wave Universe, Seoul, Korea, November 24–25, 2022
23. 67th Workshop on Gravitational Waves and Numerical Relativity, APCTP, Pohang, Korea, October 26–27, 2022
22. 765. WE-Heraeus-Seminar: Gravitational Wave and Multimessenger Astronomy, Physikzentrum Bad Honnef, Germany, April 25–28, 2022
21. Summer School on Gravitational-Wave Astronomy, ICTS-TIFR, Bangalore, India, July 5–16, 2021
20. 39th meeting of ASI, Online, India, February 18–23, 2021
19. LVK September Meeting, Online, LIGO, September 14–17, 2020
18. ICERM Fall 2020 Workshop 1: Advances and Challenges in Computational Relativity, ICERM, Brown University, Online, USA, September 14–18, 2020
17. ICTS workshop on parameter estimation with bilby, ICTS-TIFR, Bangalore, India, August 27–28, 2020
16. Test of General Relativity using Gravitational Waves, IACS, Kolkata & IIT Gandhinagar, Online, India, August 13–14, 2020
15. PyCBC Inference Online Workshop 2020, AEI, Hannover, Online, Germany, June 25–26, 2020

14. Gravitational-Wave Open Data Workshop #3, LIGO-Virgo Collaboration, Online, USA, May 26–28, 2020
13. Summer School on Gravitational-Wave Astronomy, ICTS-TIFR, Online, India, May 18–23, 2020
12. ICTS In-house symposium, Bangalore, India, February 17–18, 2020
11. Astrophysics of Supermassive Black Holes, ICTS-TIFR, Bangalore, India, December 17–19, 2019
10. Newton Bhabha-Open Data workshop, IUCAA, Pune, India, December 4–6, 2019
9. The Future of Gravitational-Wave Astronomy, ICTS, Bangalore, India, August 19–22, 2019
8. Summer School on Gravitational-Wave Astronomy, ICTS-TIFR, Bangalore, India, July 25–26, 2019
7. Theoretical Aspects of Astroparticle Physics, Cosmology and Gravitation, Galileo Galilei Institute for Theoretical Physics, Florence, Italy, March 11–22, 2019
6. Exploring the Universe: Near Earth Space Science to Extra-Galactic Astronomy, Kolkata, India, November 14–17, 2018
5. Black Holes: From Classical to Quantum Gravity, IIT, Gandhinagar, India, December 15–19, 2017
4. Young Astronomers Meet, Pune, India, September 11–15, 2017
3. Summer School on Gravitational-Wave Astronomy, ICTS-TIFR, Bangalore, India, July 17–28, 2017
2. 29th meeting of IAGRG, Guwahati, India, May 18–20, 2017
1. 35th meeting of ASI, Jaipur, India, March 6–10, 2017

Teaching

7. *Tutored* "Stochastic gravitational wave background from early universe", Summer School on Gravitational Wave Astronomy, ICTS-TIFR, Bangalore, India, July 05–16, 2021
   Instructor: Shi Pi, KIPMU, Tokyo, Japan
6. *Tutored* "Introduction to General Relativity", Graduate semester course, ICTS-TIFR, Bangalore, India, August 01–December 31, 2020
   Instructor: Bala Iyear, ICTS-TIFR, Bangalore, India
5. *Tutored* "Parameter estimation with bilby", ICTS workshop, ICTS-TIFR, Bangalore, India, August 27–28, 2020
   Instructor: Gregory Ashton, Royal Holloway, University of London, London, UK
4. *Tutored* "Numerical Hydrodynamics", Summer School on Gravitational Wave Astronomy, ICTS-TIFR, Bangalore, India, May 18–June 05, 2020
   Instructor: Ian Hawke, University of Southampton, Southampton, UK
3. *Tutored* "An Introduction to GW Physics & Astronomy", Graduate semester course, ICTS-TIFR, Bangalore, India, January 01–April 30, 2020
   Instructor: P. Ajith & Bala Iyer, ICTS-TIFR, Bangalore, India
2. *Tutored* "Advanced General Relativity", Summer School on Gravitational Wave Astronomy, ICTS-TIFR, Bangalore, India, July 15–26, 2021
   Instructor: Sudipta Sarkar, IIT, Gandhinagar, India
1. *Tutored* "Statistical Physics", Graduate semester course, HRI, Allahabad, India, August 01–December 31, 2017
   Instructor: G. V. Pai, HRI, Allahabad, India

Refereeing

3. Classical and Quantum Gravity (4)
2. The European Physical Journal C (1)
1. Journal of Physics A: Mathematical and Theoretical (1)

Achievements

- Offer for National Postdoctoral Fellowship (NPDF), Science and Engineering Research Board (SERB), Government of India., 2024
- Membership, Korean Astronomical Society, 2023–
- Membership, Simulating eXtreme Spacetime (SXS), 2021–
- Membership, LIGO Scientific Collaboration, 2020–
- Senior Research Fellowship, Department of Atomic Energy, Government of India, 2014–2018
- Junior Research Fellowship, Department of Atomic Energy, Government of India, 2012–2014
- Offer for Phd in Physics starting from 2014, IUCAA, pune, 2012
- Offer for Integrated Phd in Physics, NCRA-TIFR, Pune, 2012
- Offer for Integrated Phd in Physics, IISc, Bangalore, 2012
- Offer for MSc in Physics, IIT Bombay, 2012
- AIR 41 in Joint Entrance Screening Test (JEST), JEST, 2012
- AIR 43 in Joint Admission Test for M.Sc (JAM), IIT Bombay, 2012
- INSPIRE Fellowship, Department of Science and Technology, Government of India, 2009–2012
- Ranked within top 20 in higher secondary examination, West Bengal Council of Higher Secondary Education, 2009
- First rank in secondary examination, West Bengal Board of Secondary Education, 2007

Visits

- Chunglee Kim, Ewha Womans University, Seoul, Korea, October 20–21, 2025
- Hyung Mok Lee, Seoul National University, Seoul, Korea, October 15–25, 2025
- Prayush Kumar, ICTS-TIFR, Bangalore, India, August 4–10, 2025
- Shasvath Kapadia, IUCAA, Pune, India, June 16–22, 2025
- Hyung Mok Lee, Seoul National University, Seoul, Korea, October 10–20, 2024
- Hyung Won Lee, Inje University, Gimhae, Korea, November 2–3, 2023
- Shasvath Kapadia, IUCAA, Pune, India, June 18–21, 2023
- Prayush Kumar, ICTS-TIFR, Bangalore, India, June 15–18, 2023
- Zhoujian Cao, BNU, Beijing, China, May 09–11, 2023
- Arman Shafieloo, KASI, Daejeon, Korea, April 19–20, 2023

- Young Bok Bae, IBS, Daejeon, Korea, April 18–19, 2023
- Junichi Yokoyama, UoT, Tokyo, Japan, November 17–19, 2022
- Hisa-aki Shinkai, OIT, Osaka, Japan, November 15–17, 2022
- Kunihito Ioka, YITP, Kyoto, Japan, November 13–15, 2022
- Frank Ohme, AEI, Hannover, Germany, April 20–24, 2022
- Harald Pfeiffer, AEI, Potsdam, Germany, March 20–April 20, 2022
- Tapas Kumar Das, HRI, Allahabad, India, November 15–25, 2019
- P Ajith, ICTS-TIFR, Bangalore, India, March 25–April 6, 2019
- P Ajith, ICTS-TIFR, Bangalore, India, September 27–October 11, 2017
- Tarun Souradeep, IUCAA, Pune, India, September 6–October 20, 2014

References

- **Tapas Kumar Das**, (Phd Advisor)
  Professor, Harish-Chandra Research Institute
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  Email: tapas@hri.res.in, Phone: +91 5322274321
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  Professor, International Centre for Theoretical Sciences
  Hesaraghatta Hobli, Karnataka, 560089, India
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  Professor, Seoul National University
  1 Gwanak-ro, Gwanak-gu, Seoul 08826, Korea
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- **Prayush Kumar**
  Reader, International Centre for Theoretical Sciences
  Hesaraghatta Hobli, Karnataka, 560089, India
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